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Abstract

Concerns about chemical exposure in the electronics manufacturing industry have long been recognized, but data are lacking in Southeast Asia. We conducted a study in Batam, Indonesia, to evaluate chemical exposures in electronics facilities, using participatory research and biological monitoring approaches. A convenience sample of 36 workers (28 exposed, 8 controls) was recruited, and urine samples were collected before and after shifts. Five solvents (acetone, methyl ethyl ketone, toluene, benzene, and xylenes) were found in 46%-97% of samples, and seven metals (arsenic, cadmium, cobalt, tin, antimony, lead, and vanadium) were detected in 60%-100% of samples. Biological monitoring and participatory research appeared to be useful in assessing workers' exposure when workplace air monitoring is not feasible due to a lack of cooperation from the employer. Several logistical challenges need to be addressed in future biomonitoring studies of electronics workers in Asia in factories where employers are reluctant to track workers' exposure and health.